

Application No. 10/807,605
Amendment Dated February 6, 2006
Reply to Interview of February 3 and 6, 2006

Amendments To The Claims

The following listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-26 (canceled).

Claim 27 (currently amended): A device comprising:

a substrate;

a lanthanum nickel oxide (LaNiO_3) layer formed over the substrate, said lanthanum nickel oxide layer having a non-amorphous microstructure that comprises grains of crystalline material, the grains having an average diameter in the range from 100 Å to 300 Å, **said lanthanum nickel oxide layer further having a resistivity of less than 330 $\mu\Omega\cdot\text{cm}$; and**

a layer of ferro-electric material formed over said lanthanum nickel oxide layer.

Claim 28 (canceled).

Claim 29 (previously presented): The device of Claim 27 wherein the lanthanum nickel oxide layer has an average surface roughness in a range from 2 nm to 3 nm.

Claim 30 (canceled).

Claim 31 (previously presented): The device of Claim 27 wherein the lanthanum nickel oxide layer has a resistivity of less than 300 $\mu\Omega\cdot\text{cm}$.

Claim 32 (previously presented): The device of Claim 27 wherein the lanthanum nickel oxide layer has a resistivity of less than 250 $\mu\Omega\cdot\text{cm}$.

Claim 33 (previously presented): The device of Claim 27 wherein the grains of the crystalline material of the lanthanum nickel oxide layer have a crystal lattice constant that is closely matched to the crystal lattice constant of the substrate.

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Claim 34 (new): A device comprising:

a substrate;

a lanthanum nickel oxide (LaNiO_3) layer formed over the substrate, said lanthanum nickel oxide layer having a non-amorphous microstructure that comprises grains of crystalline material, the grains having an average diameter in the range from 100 Å to 300 Å, wherein the grains of the crystalline material of the lanthanum nickel oxide layer have a crystal lattice constant that is closely matched to the crystal lattice constant of the substrate, said lanthanum nickel oxide layer further having an average surface roughness in a range from 2 nm to 3 nm; and

a layer of ferro-electric material formed over said lanthanum nickel oxide layer.

Claim 35 (new): The device of Claim 34 wherein the lanthanum nickel oxide layer has a resistivity of less than 330 $\mu\Omega\cdot\text{cm}$.

Claim 36 (new): The device of Claim 34 wherein the lanthanum nickel oxide layer has a resistivity of less than 300 $\mu\Omega\cdot\text{cm}$.

Claim 37 (new): The device of Claim 34 wherein the lanthanum nickel oxide layer has a resistivity of less than 250 $\mu\Omega\cdot\text{cm}$.